
**VIDEO PROCESSING METHODS FOR IMPROVING VISUAL ACUITY
AND/OR PERCEIVED IMAGE RESOLUTION**

Abstract

A method and apparatus for improving visual acuity when providing a visual image from a "high" resolution input device to a "low" resolution output device. The described invention is of particular use when the output device is an array of electrodes as part of a retinal prosthesis used to restore vision to a visually-impaired patient. In that various limitations may, within the foreseeable future, limit the density of such an electrode array (and thus the resolution of the output image), the present invention teaches techniques to assign processed pixel subsets of a higher resolution image to a single electrode. By varying the pixel subsets, e.g., by jittering, and/or altering the processing criteria, the perceived visual acuity may be further improved. Alternatively and additionally, such processing may be further extended to drive neighboring electrodes in combination to thus stimulate virtual electrode sites and thus further enhance visual acuity.

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